FIG. 1
PRIOR ART

$$\mathbf{t}_l = [01{-}1{-}111{-}11{-}11{-}1{-}1{-}1{-}1{-}111{-}1{-}11{-}11{-}111110\cdots$$

$$\cdots 011{-}1{-}111{-}11{-}11111111{-}1{-}111{-}11{-}11111]$$

FIG. 2
PRIOR ART
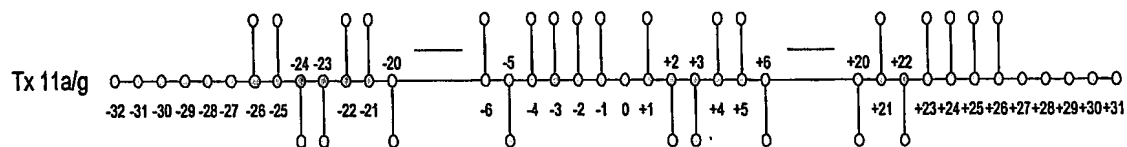
FIG. 3
PRIOR ART

$$t_l^1 = \begin{bmatrix} 0 & 1 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & -1 & 0 & 0 & -1 & 0 & \cdots \end{bmatrix}$$
$$t_l^2 = \begin{bmatrix} 0 & 0 & -1 & 0 & 0 & 1 & 0 & 0 & -1 & 0 & 0 & -1 & 0 & 0 & -1 & \cdots \end{bmatrix}$$
$$t_l^3 = \begin{bmatrix} 0 & 0 & 0 & -1 & 0 & 0 & -1 & 0 & 0 & 1 & 0 & 0 & -1 & 0 & 0 & \cdots \end{bmatrix}$$

FIG. 4

FIG. 5

600
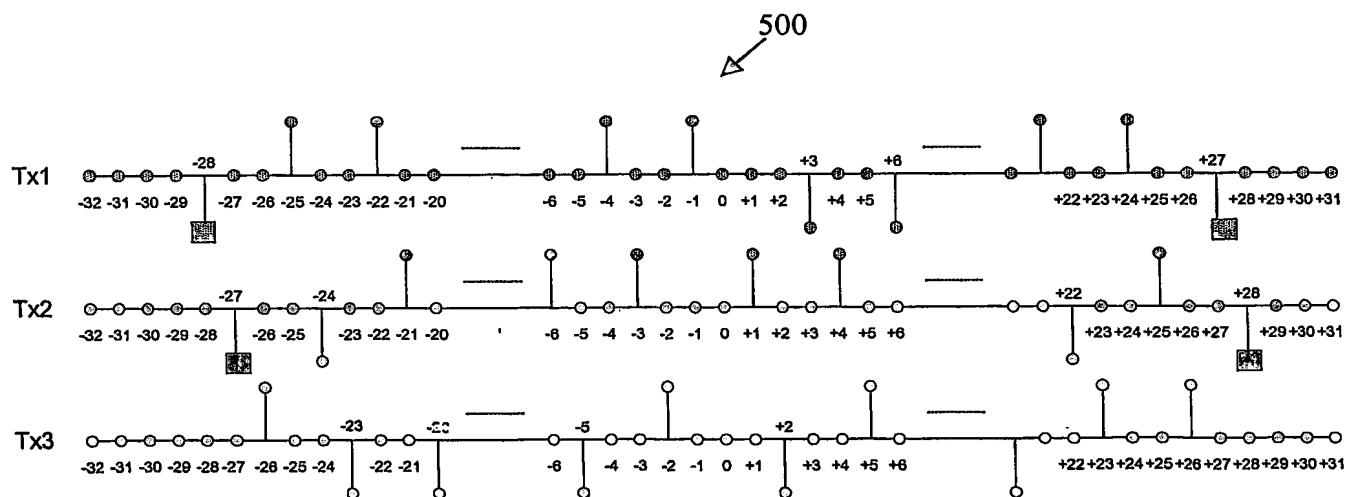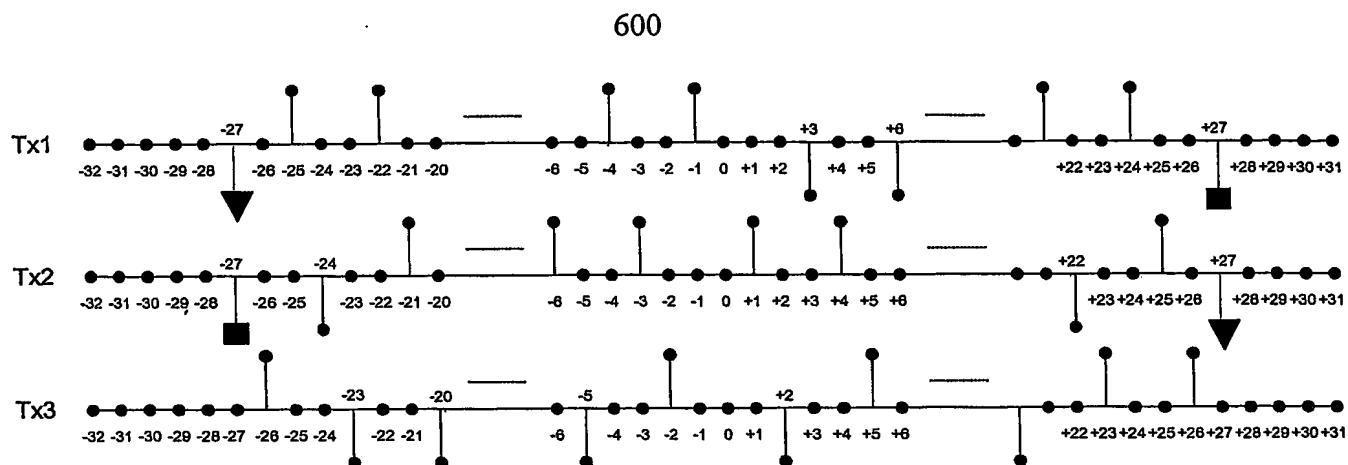

FIG. 6

$$
\begin{array}{c}
T_x^1 \\
T_x^2 \\
T_x^3
\end{array}
\begin{bmatrix}
1 & 0 & 0 & 1 & 0 & 0 & 1 & \cdots & 0 & 0 & 1 \\
0 & 1 & 0 & 0 & 1 & 0 & 0 & \cdots & 1 & 0 & 0 \\
0 & 0 & 1 & 0 & 0 & 1 & 0 & \cdots & 0 & 1 & 0
\end{bmatrix}
$$

$$
R_x \begin{bmatrix} H_1^1 & H_2^2 & H_3^3 & H_4^1 & H_5^2 & H_6^3 & H_7^1 & \cdots & H_{50}^2 & H_{51}^3 & H_{52}^1 \end{bmatrix}
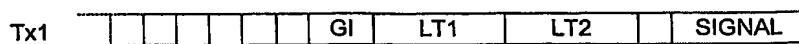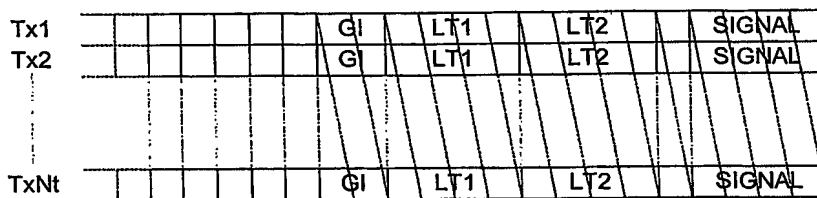$$

FIG. 7

800

| | | | | | | | GI | LT1 | LT2 | | SIGNAL | |

Tx1

FIG. 8

PRIOR ART

900

FIG. 9

$$\begin{array}{c} T_x^1 \\ T_x^2 \end{array} \begin{bmatrix} 1 & 0 & 1 & 0 & 1 & 0 & 1 & \cdots & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 & \cdots & 1 & 0 & 1 \end{bmatrix}$$

$$R_x^1 \begin{bmatrix} H_1^1 & 0 & 0 & H_4^2 & 0 & 0 & H_7^1 & \cdots & 0 & 0 & H_{52}^2 \\ 0 & H_2^2 & 0 & 0 & H_5^1 & 0 & 0 & \cdots & H_{50}^2 & 0 & 0 \\ 0 & 0 & H_3^1 & 0 & 0 & H_6^2 & 0 & \cdots & 0 & H_{51}^1 & 0 \end{bmatrix}$$
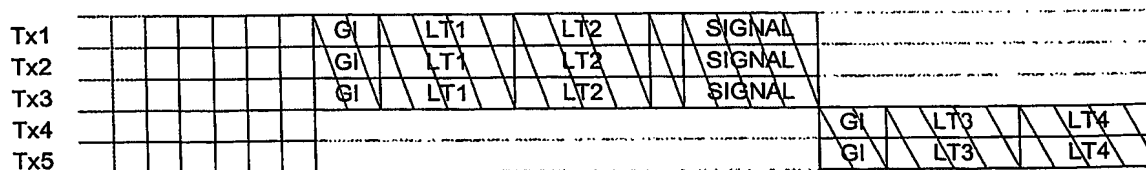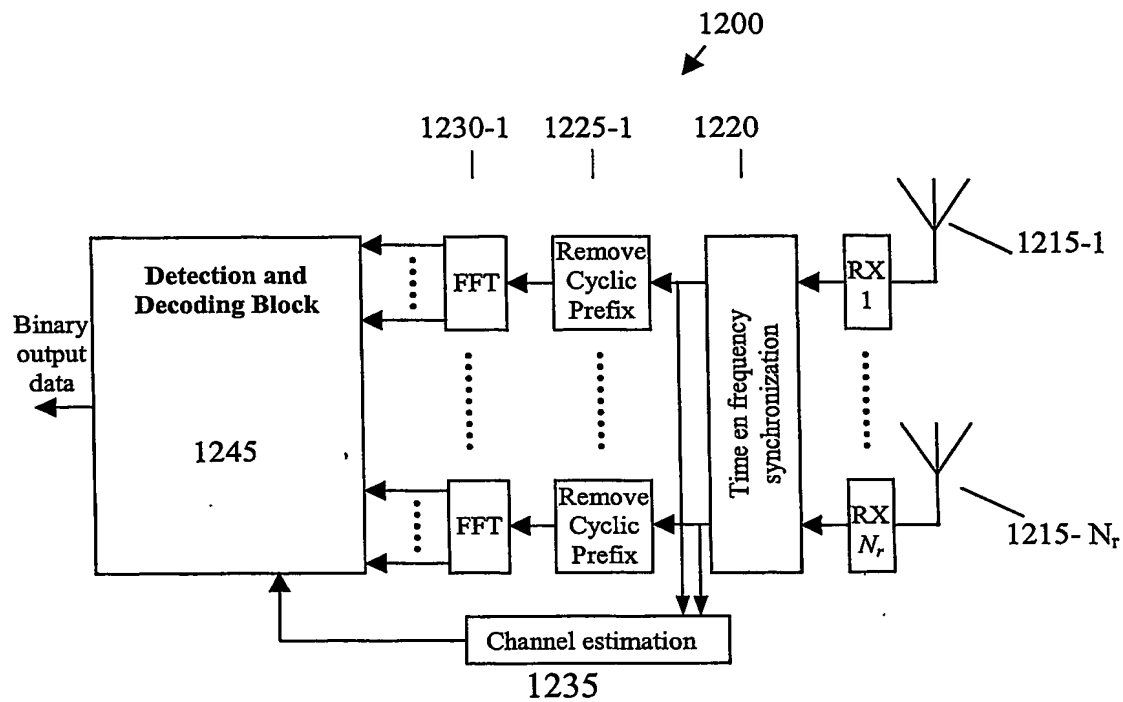
FIG. 10

1100

FIG. 11

1200

1230-1   1225-1   1220

FIG. 12